

The opinion in support of the decision being entered today was *not* written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte QUAN G. CUNG, HARRY R. KOLAR  
KEVIN E. NORSWORTHY, JULIO ORTEGA  
FREDERICK J. SCHEIBL, VASKEN TOROSSIAN  
and BEN P. YUHAS

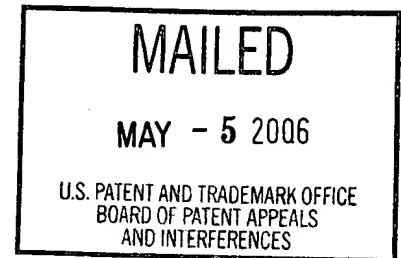
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Appeal No. 2006-0720  
Application No. 09/282,619

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ON BRIEF

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Before THOMAS, HAIRSTON, and BARRETT, *Administrative Patent Judges.*

HAIRSTON, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3 through 6 and 13 through 25.

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The disclosed invention relates to a method and system for reducing the number of attributes and respective values of a sample population employed in generating a predictive model by determining a statistical measure of difference between each of the attributes and respective values of a target population and the attributes and respective values of the sample population.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method of reducing the number of the number of attributes and respective values of a sample population employed in generating a predictive model, said method comprising the steps of:

obtaining one or more desired attributes and respective values;

comparing said one or more desired attributes and respective values with said sample population to obtain a target population;

determining a statistical measure of difference between each of the attributes and respective values of said target population and the attributes and respective values of the sample population; and

utilizing said statistical measure of difference to reduce the number of attributes and respective values of said sample population.

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The references relied on by the examiner are:

Simoudis et al. (Simoudis)      5,692,107      Nov. 25, 1997

Piatetsky-Shapiro et al. (Piatetsky-Shapiro), "Knowledge Discovery in Databases", AAAI Press/The MIT Press, 1991, pages 229 through 248.

Dash et al. (Dash), "Dimensionality Reduction of Unsupervised Data", Proceedings of the Ninth IEEE International Conference on Tools with Artificial Intelligence, Nov. 1997, pages 532 through 539.

Claims 1, 5, 6, 13 through 15, 18 through 22 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Piatetsky-Shapiro in view of Simoudis.

Claims 3, 4, 16, 17, 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Piatetsky-Shapiro in view Simoudis and Dash.

Reference is made to the brief and the answer for the respective positions of the appellants and the examiner.

#### *OPINION*

We have carefully considered the entire record before us, and we will reverse the obviousness rejections of claims 1, 3 through 6 and 13 through 25.

The Piatetsky-Shapiro publication relates to the use of statistics and the so-called KID3 (knowledge in databases 3) algorithm to discover rules in data (pages 229, 230 and 235). In the last two lines on page 235, Piatetsky-Shapiro states that a summary of all file tuples satisfying  $A=a$  can be used to derive rules implied by  $A=a$ .

Appellants argue (brief, page 6) "the above lines only indicate that the result of the KID3 algorithm taught by *Piatetsky-Shapiro* produces a summary of the existing sample population, and not obtaining a target population." Appellants also argue (brief, page 7) "*Piatetsky-Shapiro* does not teach or suggest determining a statistical measure of difference between each of the attributes and respective values of the target population and sample population" as recited in the claims on appeal.

We agree with appellants' arguments. "The comparison of the obtained target population to the sample population yields different results than simply reducing a data set to a set of rules as in *Shapiro*" (brief, page 7).

Turning to Simoudis, appellants acknowledge (brief, page 7) "*Simoudis et al.* teaches the use of a target population that is employed in generating a predictive model." Simoudis does indeed disclose that a target data set 108 is a subset of the data sources 114, and that a selected data analysis module 104 is applied to the target data set to produce a predictive model if the mining results are satisfactory to the user (column 4, lines 16, 17 and 43 through 53).

Notwithstanding the data mining teachings of Simoudis, the obviousness rejection of claims 1, 5, 6, 13 through 15, 18 through 22 and 25 is reversed because we agree with appellants' argument (brief, page 7) "[t]he present invention teaches a technique, not found in the prior art, for selecting a target group by comparing attributes values of the sample population to desired values and reducing the number of attributes by determining the statistical measure of difference between the attributes of the target and sample populations."

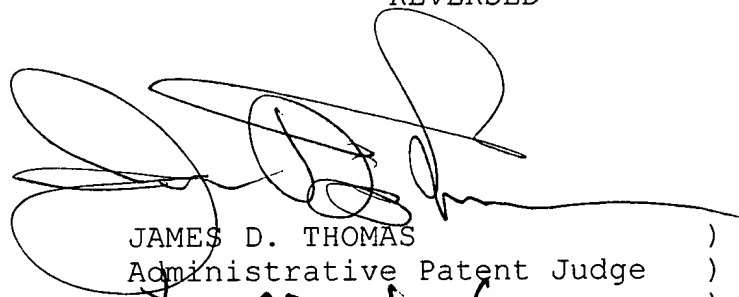
The obviousness rejection of claims 3, 4, 16, 17, 23 and 24 is reversed because the entropy measure teachings of Dash fail to cure the noted shortcomings in the teachings of Piatetsky-Shapiro and Simoudis.

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*DECISION*

The decision of the examiner rejecting claims 1, 3 through 6  
and 13 through 25 under 35 U.S.C. § 103(a) is reversed.

*REVERSED*



JAMES D. THOMAS  
Administrative Patent Judge



KENNETH W. HAIRSTON  
Administrative Patent Judge



LEE E. BARRETT  
Administrative Patent Judge

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